A Draft Scenario Definition Proposal

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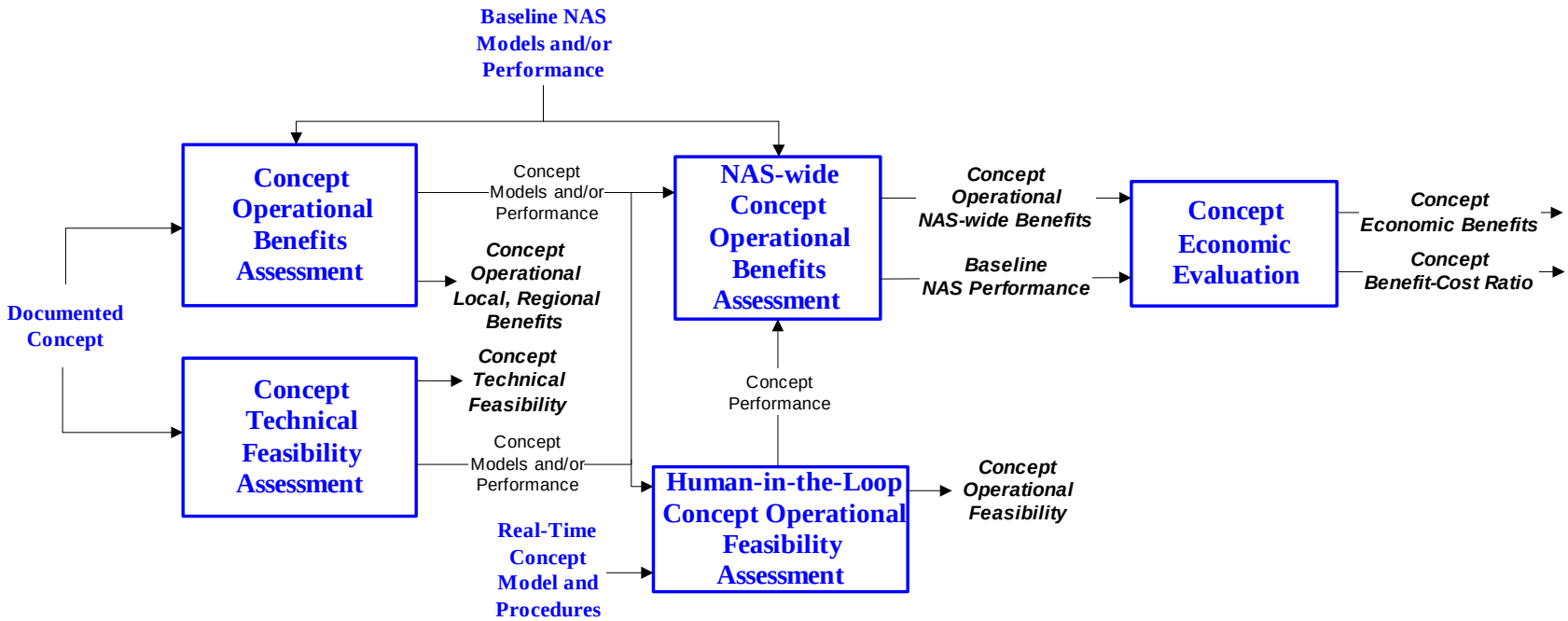
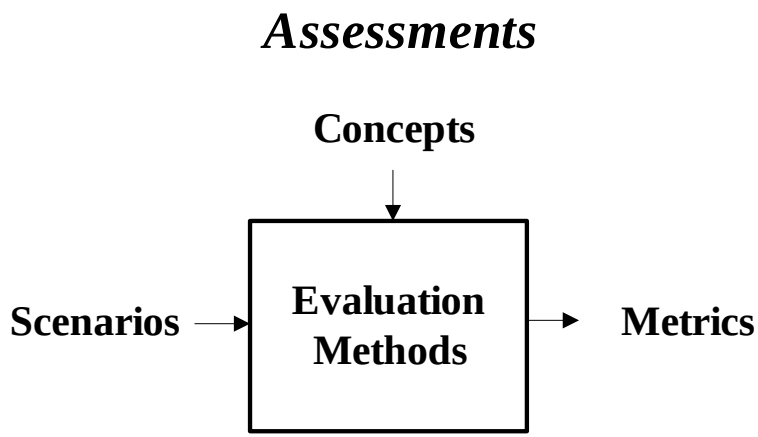
Assessment Framework

- What Assessments are required to answer the questions?
  - How are they related?



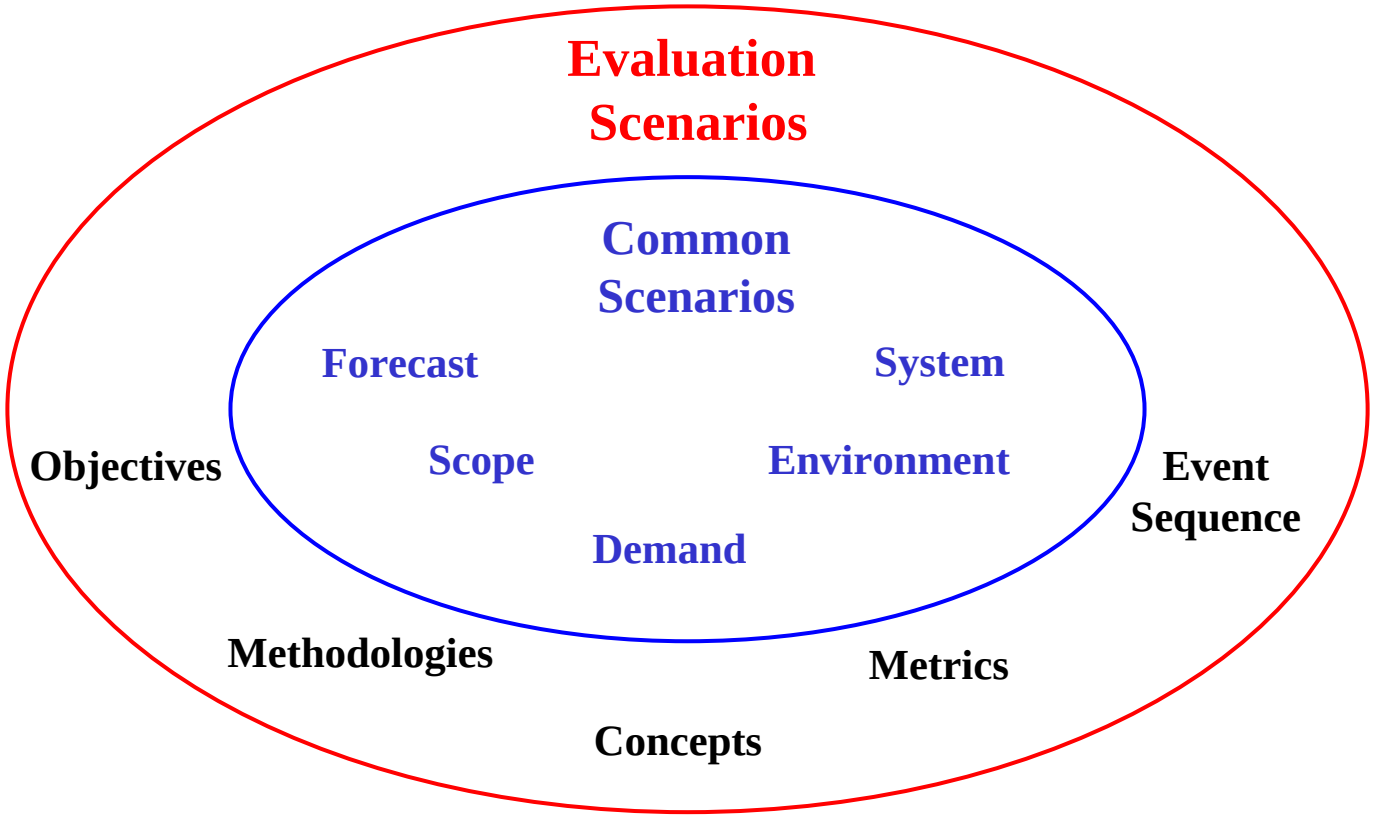
Assessment: Evaluation Methodologies

- What Evaluation Methodologies are available to answer the questions?



Real-Time Simulation	**(e.g., NASA AOL Lab, CVSRF)**
Fast-Time Simulation	**(e.g., ACES, FACET)**
Analysis	**(e.g., Cognitive walk throughs, queuing theory)**

Scenarios: Terms of Reference



- Common Scenarios:
  - Concept-independent data to support all desired VAMS concept evaluations
- Evaluation Scenarios:
  - All data needed to support a specific VAMS concept evaluation

Common Scenarios

- A Common Scenario Consists Of:

FORECAST	DEMAND	SCOPE	SYSTEM	ENVIRONMENT
time period	pax O-D (apt-to-apt, door-to-door)	physical	airspace	weather
demographics	cargo O-D (apt-to-apt, door-to-door)	temporal	airports	system failures
economic forecast	aircraft types	operational	flight management	security failures
trip preferences	schedules		air traffic management	
government policy	connections		fleet management	
	user-preferred trajectories		communication	
	flight plans		navigation	
			traffic surveillance	
			weather surveillance	

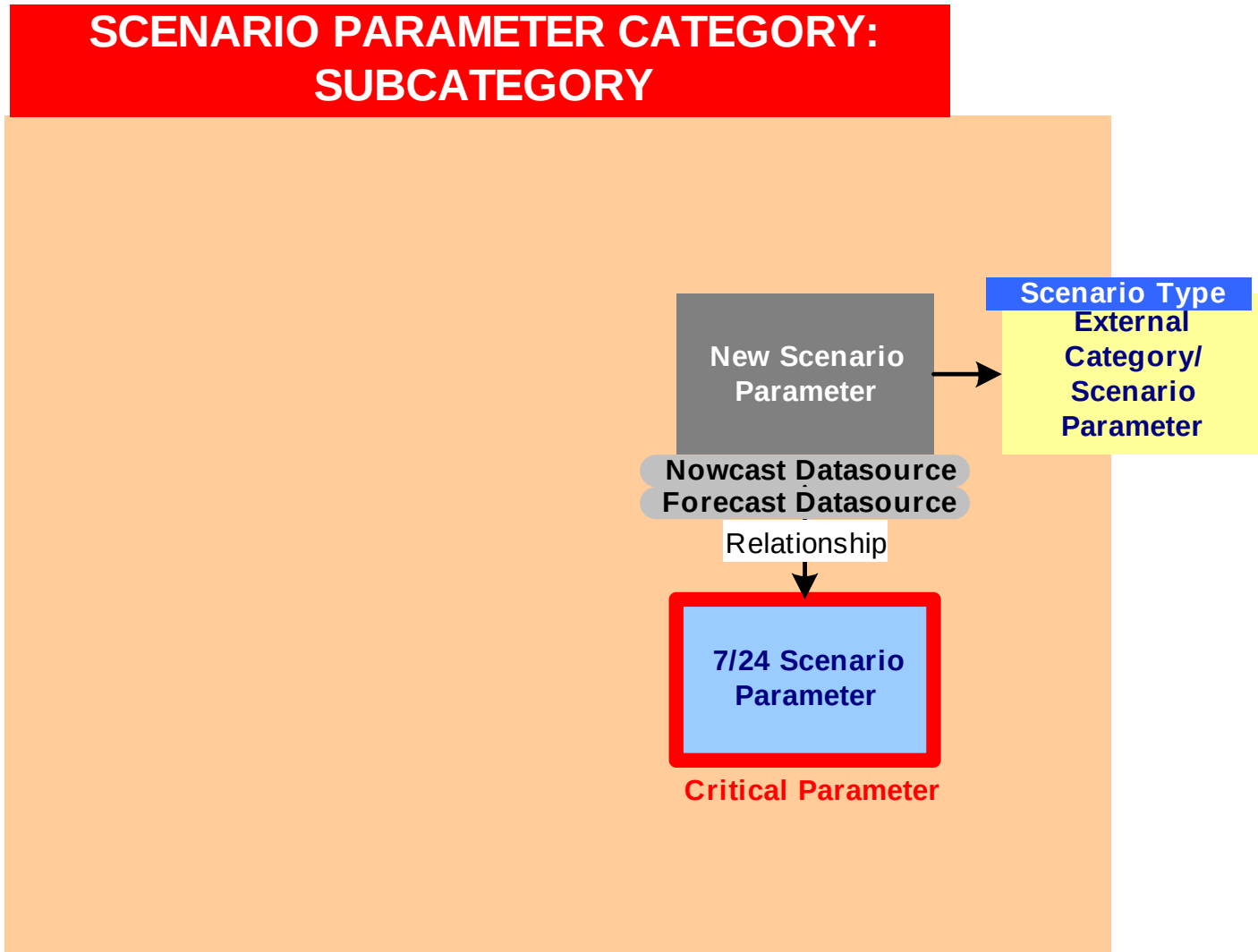
Evaluation Scenarios

- An Evaluation Scenario Consists Of:

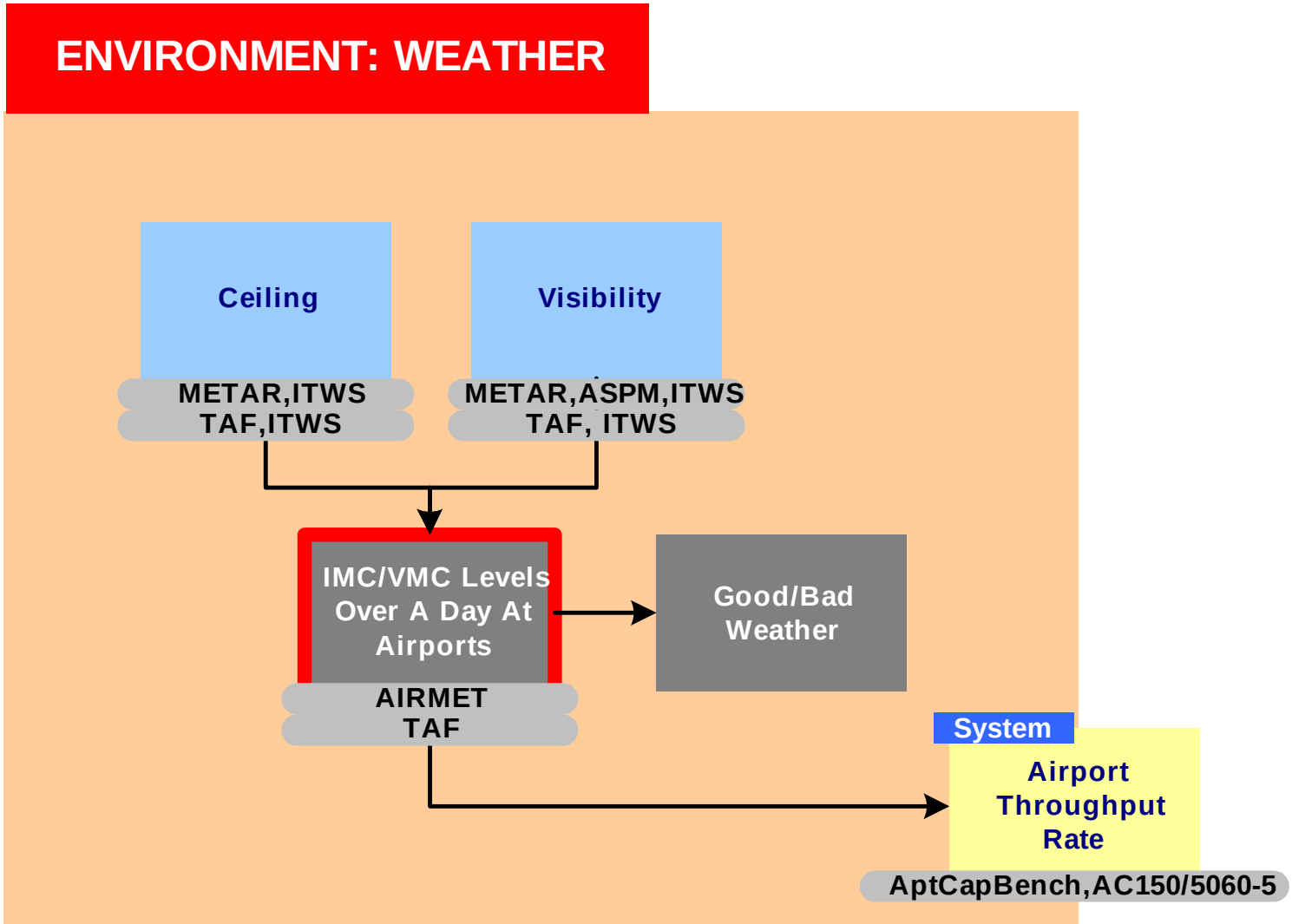
OBJECTIVES	CONCEPTS	METHODOLOGIES	EVENT SEQUENCE	METRICS
questions	flight management	analysis	pilot actions	capacity/ throughput
assumptions	air traffic management	fast-time simulation	ATC actions	efficiency
	fleet management	real-time simulation	TFM actions	taskload
	communication		AOC actions	safety
	navigation		disturbances	environment
	traffic surveillance		demand/capacity imbalances	acceptability
	weather surveillance			cost

  - Along with Common Scenario Info

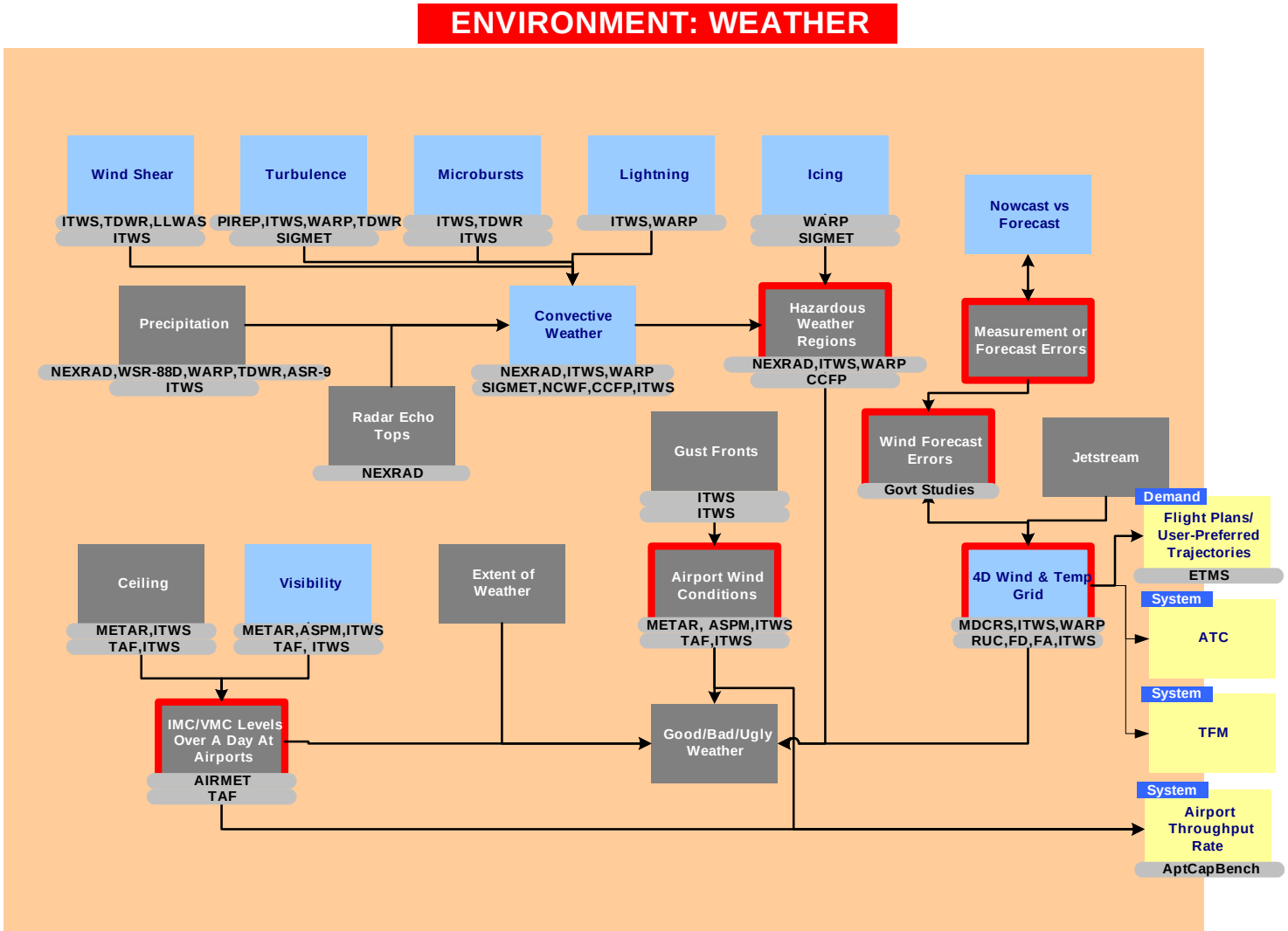
Common Scenario Set Details: Legend



Common Scenario Set Details: Simple Example



Common Scenario Set Details: Weather



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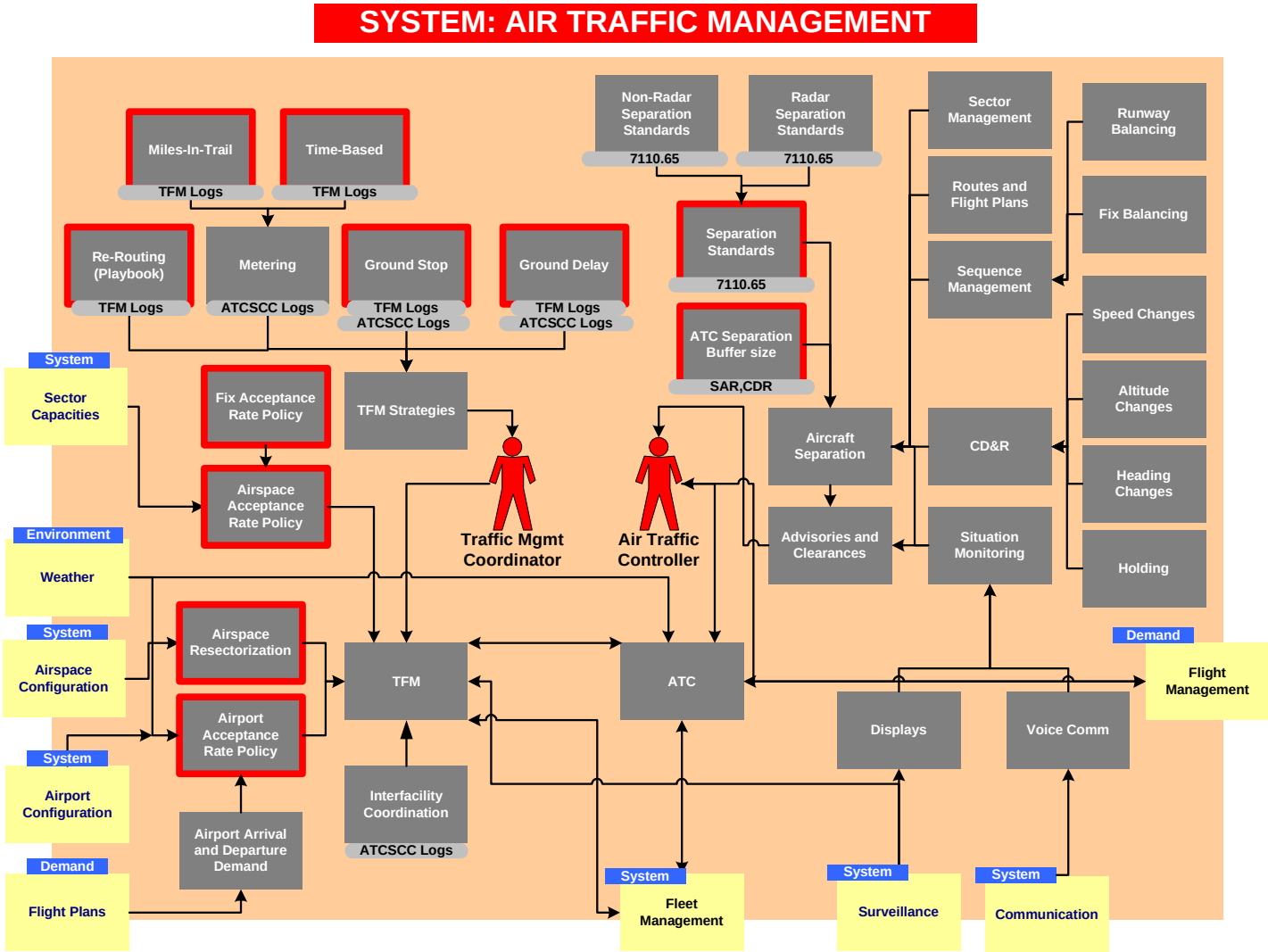

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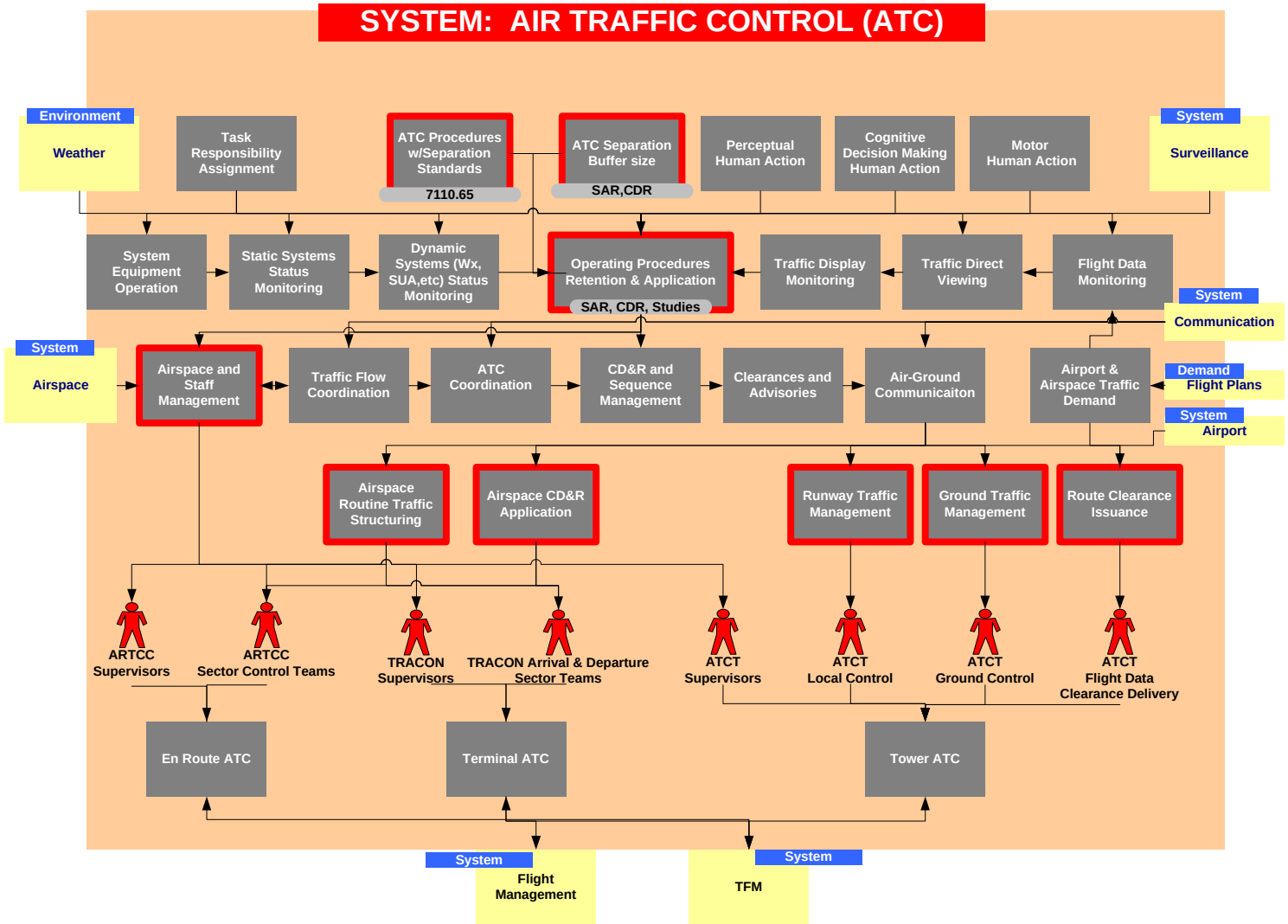
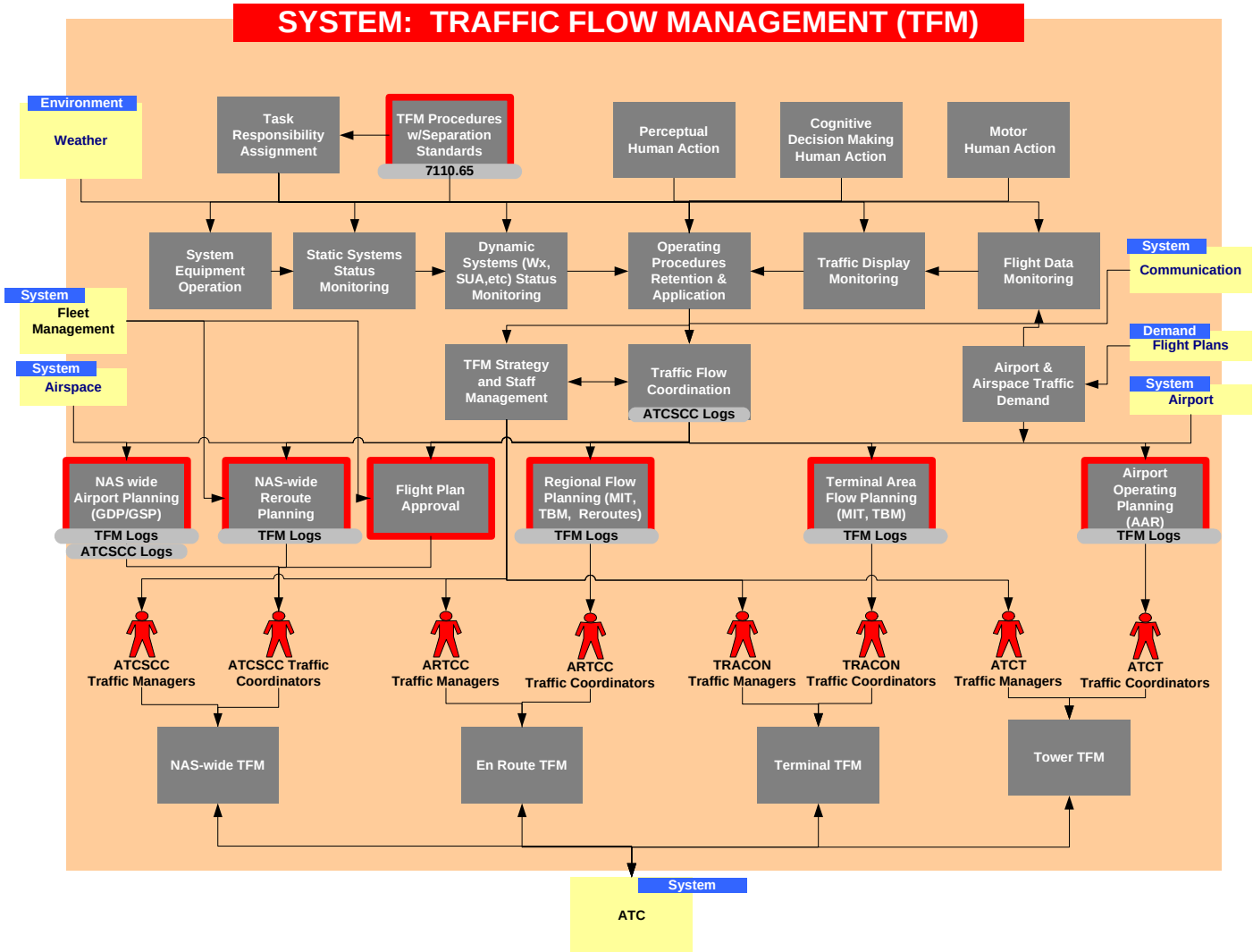
Common Scenario Set Details: Weather